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EXAMINER	
VU, THONG H	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/811,329	NISHI ET AL.	
	Examiner	Art Unit	
	Thong H. Vu	2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *26 March 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-14* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-14* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *3/04*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

1. Claims 1-14 are pending.

Double Patenting

2. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1-14 are provisionally rejected on the ground of nonstatutory double patenting over claims 1-42 of copending Application No. 10/094,541)'541). This is a provisional double patenting rejection since the conflicting claims have not yet been patented.

The subject matter claimed in the instant application is fully disclosed in the referenced copending application and would be covered by any patent granted on that copending application since the referenced copending application and the instant application are claiming common subject matter, as follows:

('541) 1. A communication method comprising the steps of: (a) performing processing for designation of a service provider, user authentication, and IP address assignment, by exchanging management frames between a user terminal and a service provider through an access network; and (b) exchanging between said user terminal and said service provider through said access network main-signal

frames each containing a Layer 2 address of the user terminal as a source Layer 2 address; wherein said management frames have a form which can be discriminated from the main-signal frames in Layer 2, and said access network holds information on at least one correspondence between at least one source Layer 2 address and at least one virtual private network, and in step (b), said access network recognizes one of the at least one virtual private network connected to said service provider, based on said Layer 2 address contained in each of said main-signal frames, and transfers the main-signal frames in Layer 2 by MAC bridging.

2. A communication system comprising: an access network; and at least one user terminal each including a user-side session management unit and a main-signal transmission-and-reception unit; wherein said user-side session management unit performs processing for designation of one of at least one service provider, user authentication, and IP address assignment, by exchanging management frames with the access network in an authentication phase, said main-signal transmission-and-reception unit exchanges main-signal frames each having an IPoE form with said one of the at least one service provider through said access network in a communication phase, and said access network realizes a virtual private network so that said main-signal frames are transferred in Layer 2 between each of said at least one user terminal and each of the at least one service provider through the access network.

8. The communication system according to claim 5, wherein said first transfer control unit decapsulates the first main-signal frame before the said first transfer control unit transfers the first main-signal frame, when the first main-signal frame received by the subscriber-side edge switch is encapsulated in accordance with a PPP protocol (i.e.: converted = encapsulated/decapsualted).

(Application) 1. A Layer 2 switching device which is connected to first and second hosts belonging to different LAN segments and to a router serving as a default gateway for the first and second hosts and forwards data to be transferred between the first and second hosts, comprising:
a flow table in which an entry is registered, the entry including an IP address of one host selected from the first and second hosts as a source IP address thereof and MAC and IP addresses of the other host as destination MAC and IP addresses thereof;
a converter that, in the case where data having the IP address of the one host set as the source IP address thereof and having the IP address of the other host set as the destination IP address thereof is received from the one host, converts
the destination MAC address set in the data into the MAC address of the other host based on the entry in the flow table; and
a unit that sends out the data, which has the destination MAC address converted, to the other host.

Furthermore, there is no apparent reason why applicant would be prevented from presenting claims corresponding to those of the instant application in the other copending application.

Claims 1 and 8 are rejected under 35 U.S.C. 102(e) as being anticipated by Lee et al [Lee 7,088,689 B2].

3. As per claim 1, Lee discloses A Layer 2 switching device which is connected to first and second hosts belonging to different LAN segments and to a router serving as a default gateway for the first and second hosts and forwards data to be transferred between the first and second hosts [Lee, source host and destination host, switching unit 20, different VLANs, proxy server, abstract], comprising:

a flow table in which an entry is registered, the entry including an IP address of one host selected from the first and second hosts as a source IP address thereof and MAC and IP addresses of the other host as destination MAC and IP addresses thereof [Lee, table with Mac and IP addresses, col 4 lines 1-12; registered to the MAC table, col 4 line 40-45];

a converter [Lee, proxy server 10a, Fig 2] that, in the case where data having the IP address of the one host set as the source IP address thereof and having the IP address of the other host set as the destination IP address thereof is received from the one host, converts the destination MAC address set in the data into the MAC address of the other host based on the entry in the flow table [Lee, change the port of the source host, col 4 lines 13-26]; and

a unit that sends out the data, which has the destination MAC address converted, to the other host [Lee, transfer through the switching unit 20, col 4 lines 39-65].

4. As per claim 8, Lee discloses A data exchange method using a Layer 2 switching device which is Connected to first and second hosts belonging to different LAN segments and to a router serving as a default gateway for the first and second hosts

and relays data to be transferred between the first and second hosts [Lee, source host and destination host, switching unit 20, different VLANs, proxy server, abstract], the method comprising:

registering in a flow table an entry including an IP address of one host selected from the first and second hosts as a source IP address thereof and MAC and IP addresses of the other host as MAC and destination IP addresses thereof [Lee, table with Mac and IP addresses, col 4 lines 1-12; registered to the MAC table, col 4 line 40-45];

converting [Lee, proxy server 10a, Fig 2], in the case where data having the IP address of the one host set as the source IP address thereof and having the IP address of the other host set as the destination IP address thereof is received from the one host, the destination MAC address set in the data into the MAC address of the other host based on the entry in the flow table [Lee, change the port of the source host, col 4 lines 13-26]; and sending out the data, which has the destination MAC address converted, to the other host [Lee, transfer through the switching unit 20, col 4 lines 39-65].

Claims 2 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lee et al [Lee 7,088,689 B2] in view of Brown et al [Brown 6,279,035 B1]

5. As per claims 2,9 Lee discloses a flow table learning unit that, in the case where data having the IP address of the one host selected from the first and second hosts set as the source IP address thereof and having the MAC and IP addresses of the other host set as the MAC and destination IP addresses thereof is received via the router and

sent to the other host, including the source IP address and the MAC and destination IP addresses which are set in the data to register the entry in the flow table.

However Lee does not explicitly detail creates the entry in the flow table.

It's was well-known in the art that a cache table or flow table could be created [Brown, creating the cache entries or table entries, col 2 lines 35-45]

Therefore it would have been obvious to an ordinary skill in the art at the time the invention was made to incorporate the technique of creating cache entries or table entries as taught by Brown into the Lee's apparatus in order to utilize the flow table.

Doing so would provide a capability to detect and keep track the data flow [Brown, col 2 lines 35-45]

Claims 3-7,10-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lee et al [Lee 7,088689 B2] in view of Kadambi et al [Kadambi 6,560,229 B1].

6. As per claim 3, Lee discloses an address table learning unit that, in the case where data to be transferred from the one host selected from the first and second hosts to the other host is received, registers an entry in an address table, the entry including a source MAC address and the destination IP address which are set in the data [Lee, registered to the MAC table, col 4 line 40-45]; and

However Lee does not explicitly detail

flow table learning unit that: in the case where the data to be transferred from the one host to the other host is received via the router and sent to the other host, searches the address table by using the destination IP address in the data as a search key; and

when the MAC address included in a retrieved entry coincides with the destination MAC address in the data, creates an entry including the source IP address and the MAC and destination IP addresses which are set in the data to register the entry in the flow table.

In the same endeavor, Kadambi discloses a router table searching an IP packet with MAC address [Kadambi, col 26 lines 54-64] create or insert and delete entries [Kadambi, col 33 lines 10-30]

Therefore it would have been obvious to an ordinary skill in the art at the time the invention was made to incorporate the searching the address table and insert/delete entries as taught by Kadambi into the Lee's apparatus in order to utilize the address table.

Doing so would provide the layer 2 switch capable of learning address and maintaining table thereof corresponding to port mappings

7. As per claim 4, Lee-Kadambi disclose the source MAC address set in the data is converted into a MAC address of the router corresponding to the segment to which the other host belongs [Lee, proxy server 10a, Fig 2].

8. As per claim 5, Lee-Kadambi disclose the flow table learning unit creates the entry for only each of ports to be connected to the first and second hosts [Kadambi, create or insert and delete entries, col 33 lines 10-30].

9. As per claim 6, Lee-Kadambi disclose a deletion unit that, in the case where a predetermined time has elapsed since an entry was newly registered or last updated in the flow table, deletes the entry [Kadambi, TTL, col 19 lines 1-5].

10. As per claim 7, Lee-Kadambi disclose the Layer 2 switching device forwards a particular kind of data within the data to be transferred from the one host selected from the first and second hosts to the other host, to the router, without a process performed by the converter as inherent feature of transferring data in the other host of the same LAN.

11. Claims 10-14 contain identical limitations set forth in claims 3-7. Therefore claims 10-14 are rejected for the same rationale set forth in claims 3-7.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thong H. Vu whose telephone number is 571-272-3904. The examiner can normally be reached on 6:00-3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, *Lynn Feild* can be reached on 571-272-2092. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Thong Vu
Primary Examiner

THONG VU
PRIMARY PATENT EXAMINER